

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION



AMENDMENT TO
THE WATER QUALITY CONTROL PLAN
FOR THE SACRAMENTO RIVER AND
SAN JOAQUIN RIVER BASINS
FOR
BACTERIA

STAFF REPORT
and
FUNCTIONAL EQUIVALENT DOCUMENT



***FINAL REPORT
SEPTEMBER 2002***

State of California
California Environmental Protection Agency
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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REPORT PREPARED BY:

BETTY YEE
Senior Water Resource Control Engineer
Basin Planning

I. SUMMARY

Staff of the Regional Water Quality Control Board, Central Valley Region (Regional Water Board) proposes for Regional Water Board consideration an amendment to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) to update the water quality objectives for bacteria that are applied to waters designated for contact recreation (REC-1). The goal in updating the bacteria objectives is to better protect human health by using a more reliable indicator to reflect the risk of illnesses associated with exposure to water containing disease-causing bacteria. The proposed revisions are based on more recent epidemiological studies and research on the most appropriate bacterial indicators conducted locally and nationally. Specifically, staff proposes that the bacterial indicator, *E. coli*, be used to assess the quality of all waters used for contact recreation (REC-1).¹ Staff recommends that the fecal coliform objectives for Folsom Lake remain at the current time, since the correlation between the Folsom Lake fecal coliform objective and *E. coli* has not been established yet.

Water quality objectives, as defined in California Water Code section 13050(h), mean “the limits or levels of water quality constituents or characteristics established for the reasonable protection of beneficial uses or the prevention of nuisance within a specific area.” Water quality objectives for a particular constituent or characteristic depend, therefore, on the beneficial uses of the water body. Water quality objectives for bacteria must consider differences in the risk of human exposure (e.g., immersion vs. incidental contact), epidemiological research, and the need to use indicator organism characteristics since it not feasible to test for all potential illnesses or for the presence of all disease-causing bacteria or other organisms. Bacteria objectives therefore differ for water bodies with different beneficial uses.

Staff recommends that the objectives for bacteria in waters used for contact recreation (REC-1) be updated to reflect those specified by the US Environmental Protection Agency (USEPA) in its “Ambient Water Quality Criteria for Bacteria – 1986” (USEPA, 1986). The updated objectives would be based on the indicator organism, *E. coli*.

The proposed water quality objectives for bacteria for water bodies designated as REC-1 are as follows:

In all waters designated for contact recreation (REC-1), the E. coli concentration, based on a minimum of not less than five samples equally spaced over a 30-day period, shall not exceed a geometric mean of 126/100 ml and shall not exceed 235/100 ml in any single sample.

If any single sample limits are exceeded for E. coli, the Regional Water Board may require repeat sampling on a daily basis until the sample falls below the single sample limit or for 5 days, whichever is less, in order to determine the persistence of the exceedance.

¹ REC-1 (water contact recreation) is defined in the Basin Plan as “[U]ses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs” (p. II-1.00).

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

In addition, for Folsom Lake (50), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 100/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 200/100 ml.

The sections below describe the existing objectives, the historical basis for these objectives, and criticisms of these objectives. They also describe the proposed objectives, how they differ from existing objectives, the technical basis for the proposed objectives, and the policy justifications for revising the objectives. Finally, Section IV presents several alternatives for the Regional Water Board to consider in taking action to adopt the proposed objectives.

II. RATIONALE FOR BASIN PLAN AMENDMENT

There are several reasons to update the bacteria objectives. First and foremost, the water quality standards outlined in the Basin Plan are the cornerstone of all of the other activities of the Regional Water Board and should be based on the best science available to protect beneficial uses.² The proposed bacteria objectives are based on substantial research conducted by the USEPA, which has provided new information on the best “indicators” of the presence of disease-causing organisms and the relationship between these indicators and illness rates.³

Second, water quality standards are used to determine which water bodies are impaired and, thus, to identify water bodies for which total maximum daily loads (TMDLs) must be developed. These standards are often used to determine the numeric targets in a TMDL. The numeric targets then form the basis for determining the allowable pollutant load to a water body and allocating this load among the various point and nonpoint source dischargers. These allocations are then incorporated, as appropriate, into discharge permits issued by the Regional Water Board. Some bacteria/pathogen TMDLs are planned. If outdated bacteria objectives are the basis of these TMDLs, significant resources will have to be spent to redo these TMDLs once the new objectives are adopted.

Third, if the Regional Water Board does not take action soon to update the bacteria objectives for the region, it is likely that the State Water Resources Control Board (State Water Board) and USEPA will act on behalf of the region. In March 1999, USEPA made a commitment in the

² Water quality standards are defined as the beneficial uses of a water body, the water quality objectives associated with that beneficial use, and the State’s antidegradation policy [40 CFR 131.3(i)]. This Basin Plan amendment only proposes changes to the water quality objectives for bacterial indicators, not to the beneficial uses of water bodies.

³ Indicator organisms often do not cause illness directly. However, they are associated with fecal contamination and have characteristics that make them good predictors of pathogens in water bodies. Pathogens are disease-causing microorganisms that include viruses, protozoa and bacteria. Many of these pathogens can not be measured directly. In addition, water bodies may contain many different pathogens, making measurement impractical even if techniques were available to detect all pathogens of concern. Therefore, indicator organisms are used to predict the health risks from pathogens residing in water bodies.

“Action Plan for Beaches and Recreational Waters” (USEPA, 1999) that “where a State does not amend its water quality standards to include the 1986 criteria, USEPA will act under Section 303(c) of the Clean Water Act to promulgate the criteria with the goal of assuring that the 1986 criteria apply in all states not later than 2003.”⁴

III. PROPOSED CHANGES FOR WATERS DESIGNATED FOR CONTACT RECREATION (REC-1)

A. Current Objectives

The current objectives are based on fecal coliform and are:

In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.

For Folsom Lake (50), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 100/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 200/100 ml.

History of Current Objectives. The current fecal coliform objectives for waters designated REC-1 are based on the results of a series of epidemiological studies conducted in the late 1940s and early 1950s, which are summarized by Stevenson (1953). These studies showed that there was a significantly greater illness rate in individuals who swam in water with an average total coliform density of 2,300 organisms per 100 ml compared to those who swam in water with an average total coliform density of 43 organisms per 100 ml. This total coliform index was translated into a fecal coliform index by using the ratio of fecal coliforms to total coliforms at one of the original study sites. This change from total coliform to fecal coliform was made because fecal coliform is a better indicator of fecal contamination and was more stable than total coliform. Based on this ratio, it was assumed that for fecal coliform, one would observe statistically significant swimming-associated gastrointestinal illness at 400 organisms/100 ml. The National Technical Advisory Committee (NTAC) of the Department of the Interior, which oversaw these initial epidemiological studies, suggested that a detectable risk was unacceptable, and so proposed a density of 200 fecal coliform per 100 ml as the criterion (NTAC, 1968). The NTAC further proposed that not more than 10 percent of samples should exceed 400 fecal coliform per 100 ml. This criterion was recommended by USEPA in 1976 (USEPA, 1976).

B. Proposed Objectives

The revised objectives replace the general fecal coliform with *E. coli* as an indicator for pathogens.

⁴ The 1986 guidance issued by USEPA addresses bacteria objectives for waters designated for contact recreation, and recommends the use of enterococcus and *E. coli* for freshwater (USEPA, 1986).

Specifically, staff recommends the following:

~~*In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.*~~

*In all waters designated for contact recreation (REC-1), the *E. coli* concentration, based on a minimum of not less than five samples equally spaced over a 30-day period, shall not exceed a geometric mean of 126/100 ml and shall not exceed 235/100 ml in any single sample.*

*If any single sample limits are exceeded for *E. coli*, the Regional Water Board may require repeat sampling on a daily basis until the sample falls below the single sample limit or for 5 days, whichever is less, in order to determine the persistence of the exceedance.*

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

In addition, for Folsom Lake (50), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 100/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 200/100 ml.

Justification for Revised Objectives. The revised objectives are based on new and better information on the relationship between illness rates and bacterial indicator densities. The new information was collected through more recent epidemiological studies conducted nationwide. There is also better information on the bacterial indicators themselves, allowing us to select the best indicators given local conditions. This new information is briefly summarized below.

In response to criticisms leveled at the fecal coliform objective, USEPA initiated another series of epidemiological studies in both fresh water and marine water. The purpose of these studies was to: (1) confirm that swimming in sewage-contaminated water carries a health risk for bathers and (2) determine which indicator(s) is best correlated with swimming-associated health effects. These studies found that swimming in sewage-contaminated water does carry a health risk. Enterococcus and *E. coli* were the indicators most strongly correlated with gastroenteritis. These studies found that total coliform and fecal coliform densities were only weakly correlated with gastroenteritis. The enterococcus and *E. coli* criteria now recommended by USEPA were calculated based on historical “acceptable” illness rates of 8 illness per 1,000 swimmers at fresh water beaches, and 19 illness per 1,000 swimmers at marine beaches, which are the illness rates associated with the fecal coliform criterion. (USEPA, 1986)

As a result of the national epidemiological studies, the USEPA published revised criteria guidelines for bacteria, recommending that States use enterococcus in marine water and *E. coli* or enterococcus in fresh water (USEPA, 1986).

IV. ALTERNATIVES

1. *No action.*

If the Regional Water Board does not adopt revised standards consistent with USEPA's recommendations, USEPA may act in place of the Regional Water Board to promulgate revised bacteria objectives for waters designated for water contact recreation (REC-1). Specifically, USEPA is likely to act by 2003 to change bacteria objectives for all waters designated as REC-1 by adding objectives for enterococcus or *E. coli*. (USEPA, 1999)

In the meantime, the Regional Water Board may overlook beneficial use impairments due to pathogens, as indicated by exceedances of *E. coli*, which have been shown to be correlated more strongly with an increased risk of illness than the use of fecal coliform, when conducting its biennial water quality assessment.

2. *Add USEPA criteria to the current bacteria objectives*

By adopting the proposed revisions to bacteria objectives for waters designated for water contact recreation, the Regional Water Board will make the region's bacteria objectives consistent with USEPA guidance, which are based on the latest research on the best indicators of bacterial contamination and public health risks (USEPA, 1986). However, keeping the existing fecal coliform objectives may lead to identifying potential impairments to the recreational beneficial use when no health risk exists.

3. *Replace the current bacteria objectives*

By adopting the proposed revisions to bacteria objectives for waters designated for water contact recreation, the Regional Water Board will make the region's bacteria objectives consistent with USEPA guidance, which are based on the latest research on the best indicators of bacterial contamination and public health risks (USEPA, 1986). Finally, by acting proactively, we will be able to more efficiently carry out other activities such as recommending water bodies to the Clean Water Act Section 303(d) List, developing TMDLs, and specifying effluent limits in discharge permits.

V. RECOMMENDED ALTERNATIVE (#3)

Revise Chapter 3, "Water Quality Objectives" by replacing the paragraphs under the bacteria water quality objective with the following:

~~*In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.*~~

In all waters designated for contact recreation (REC-1), the *E. coli* concentration, based on a minimum of not less than five samples equally spaced over a 30-day period, shall not exceed a geometric mean of 126/100 ml and shall not exceed 235/100 ml in any single sample.

If any single sample limits are exceeded for *E. coli*, the Regional Water Board may require repeat sampling on a daily basis until the sample falls below the single sample limit or for 5 days, whichever is less, in order to determine the persistence of the exceedance.

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

In addition, for Folsom Lake (50), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 100/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 200/100 ml.

VI. OTHER CONSIDERATIONS

1. CEQA and Economic Considerations

The Basin Planning process has been certified by the Secretary of Resources as functionally equivalent to the preparation of an initial study, a negative declaration, or environmental impact report (EIR) pursuant to CEQA. In lieu of these documents, however, the Regional Water Board is required to prepare the following: the Basin Plan amendment; an Environmental Checklist that identifies potentially significant adverse environmental impacts of the Basin Plan amendment; and a staff report that describes the proposed amendment, reasonable alternatives, and mitigation measures to minimize any significant adverse environmental impacts identified in the Checklist. The Basin Plan amendment, Environmental Checklist, and staff report together are functionally equivalent to an initial study, negative declaration, or EIR.

The Environmental Checklist (attached to this report) concludes that there would be **no potentially significant adverse impacts** on the environment caused by adoption of this Basin Plan amendment.

As for economic considerations, the bacteria objectives proposed in this Basin Plan amendment are considered “indicators” of the presence of disease-causing pathogens. The Basin Plan amendment replaces the general fecal coliform objectives with objectives for *E. coli*. Epidemiological studies have shown this to be a better indicator of the presence of disease-causing pathogens. The stringency of the two objectives, as indicated by the expected number of illnesses, is the same. Therefore, where the proposed objectives are not currently being attained in the waters of the region, the methods and associated costs to achieve compliance with the objectives are not expected to be different from those necessary to achieve the existing objectives for fecal coliform. In addition, the cost of monitoring *E. coli* is no more than the cost of monitoring fecal coliform.

VII. RECOMMENDATION

Staff recommends that the Regional Water Board approve the proposed Basin Plan amendment.

REFERENCES

Committee of Water Quality Criteria. 1972. National Academy of Sciences – National Academy of Engineering. “Water Quality Criteria.” EPA-R3-73-003.

National Technical Advisory Committee, Federal Water Pollution Control Administration. 1968. “Water Quality Criteria.”

Stevenson, Albert H. 1953. “Studies of Bathing Water Quality and Health.” *American Journal of Public Health* 43(5):529-38.

United States Environmental Protection Agency. 1999. “Action Plan for Beaches and Recreational Waters.” EPA600/R-98/079.

United States Environmental Protection Agency. 1986. “Ambient Water Quality Criteria for Bacteria – 1986.” EPA440/5-84-002.

United States Environmental Protection Agency. 1976. “Quality Criteria for Water.”

ENVIRONMENTAL IMPACT REVIEW

INTRODUCTION

The planning process for water quality control plans has been certified by the Secretary of Resources as a regulatory program pursuant to Public Resources Code section 21080.5. CEQA Guidelines § 15251(g). Pursuant to Public Resources Code section 21080.5(c), the Basin Plan planning process is exempt from the provisions of the California Environmental Quality Act (CEQA) that relate to preparation of Environmental Impact Reports and Negative Declarations. This attachment to the proposed basin plan amendment satisfies the requirements of State Water Resources Control Board Regulations for Implementation of CEQA, Exempt Regulatory Programs, which are found in the California Code of Regulations, Title 23, Division 3, Chapter 27, Article 6, beginning at section 3775. Section 3777 requires preparation of:

- an environmental checklist; and
- a written report containing a brief description of the proposed activity or project, reasonable alternatives to the proposed activity, and mitigation measures to minimize any significant adverse environmental impacts of the proposed activity.

PROPOSED PROJECT

The Basin Plan designates beneficial uses of waterbodies, establishes water quality objectives for the protection of these beneficial uses, and outlines a plan of implementation for maintaining and enhancing water quality.

The existing Basin Plan includes water quality objectives for fecal coliform for waterbodies designated for water contact recreation (REC-1). The proposed Basin Plan amendment will replace the bacteria objective for waters designated for water contact recreation to be consistent with those specified in the “Ambient Water Quality Criteria for Bacteria – 1986” (USEPA, 1986). Specifically, the updated objectives would be based on *E. coli*.

ENVIRONMENTAL CHECKLIST

1. Project Title:

Amendment to the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins to Update the Bacteria Objectives for Water Contact Recreation.

2. Lead Agency Name and Address:

California Regional Water Quality Control Board, Central Valley Region, 3443 Routier Road, Suite A, Sacramento, CA 95827-3003

3. Contact Person and Phone Number:

Betty Yee, Senior Water Resource Control Engineer, (916) 255-0743.

4. Project Location:

Sacramento River and San Joaquin River Basins.

5. Project Sponsor's Name and Address:

California Regional Water Quality Control Board, Central Valley Region, 3443 Routier Road, Suite A, Sacramento, CA 95827-3003

6. General Plan Designation:

Not applicable

7. Zoning:

Not applicable

8. Description of Project:

Basin Plan amendment to update water quality objectives for bacteria for water contact recreation consistent with US Environmental Protection Agency criteria.

9. Surrounding Land Uses and Setting:

Not applicable.

10. Other public agencies whose approval is required:

State Water Resources Control Board
Office of Administrative Law
United States Environmental Protection Agency

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental resource categories identified below are analyzed herein to determine whether the Proposed Project would result in adverse impacts to any of these resources. None of the categories below are checked because the Proposed Project is not expected to result in "significant or potentially significant impacts" to any of these resources.

Aesthetics	Biological Resources
Hazards & Hazardous Materials	Mineral Resources
Public Services	Utilities/Service Systems
Agriculture Resources	Cultural Resources
Hydrology/Water Quality	Noise
Recreation	Mandatory Findings of Significance
Air Quality	Geology/Soils
Land Use Planning	Transportation/Traffic

On the basis of this initial evaluation:

- ☒ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the Proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the Proposed Project could have a significant effect on the environment because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

_____ Signature	_____ Date
_____ Printed name	_____ For

EVALUATION OF ENVIRONMENTAL IMPACTS

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to Project’s like the one involved (e.g., the Project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).

- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, “Earlier Analysis,” may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a Project’s environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:

- a) The significance criteria or threshold, if any, used to evaluate each question; and
- b) The mitigation measure identified, if any, to reduce the impact to less than significance.

This Environmental Checklist has been prepared in compliance with the requirements of CEQA relating to certified regulatory programs.

IMPACT	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
I. AESTHETICS Would the Project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control the District may be relied upon to make the following determinations. Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
exceed quantitative thresholds for ozone precursors)?				
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IV. BIOLOGICAL RESOURCES – Would the Project:

a) Have a substantial adverse effect, either directly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulators, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. CULTURAL RESOURCES – Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource of site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
VI. GEOLOGY AND SOILS – Would the Project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure,, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VII. HAZARDS AND HAZARDOUS MATERIALS – Would the Project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
f) For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VIII. HYDROLOGY AND WATER QUALITY – Would the Project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which results in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IX. LAND USE AND PLANNING – Would the Project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
X. MINERAL RESOURCES – Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XI. NOISE – Would the Project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XII. POPULATION AND HOUSING – Would the Project?				

IMPACT	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIII. PUBLIC SERVICES

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIV. RECREATION

a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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XV. TRANSPORTATION/TRAFFIC – Would the Project:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio to roads, or congestion at intersections?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion/management agency for designated roads or highways?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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IMPACT	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVI. UTILITIES AND SERVICE SYSTEMS – Would the Project?

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number of restrict the range of a rare or endangered plant or animal or eliminate important examples of the major	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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IMPACT	POTENTIALLY SIGNIFICANT IMPACT	POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
periods of California history or prehistory?				
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

THRESHOLDS OF SIGNIFICANCE

For the purposes of making impact determinations, potential impacts were determined to be significant if the Proposed Project or its alternatives would result in changes in environmental condition that would, either directly or indirectly, cause a substantial loss of habitat or substantial degradation of water quality or other resources.

ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT

Each resource category of the Environmental Checklist is supported by the following discussions and source information, as cited.

Aesthetics

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to aesthetics.

Agricultural Resources

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to agricultural resources.

Air Quality

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to air quality.

Biological Resources

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to biological resources.

Cultural Resources

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to cultural resources.

Geology and Soils

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to geology and soils.

Hazards and Hazardous Materials

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to hazards and hazardous materials.

Hydrology and Water Quality

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns; however, it is not more stringent than the current fecal coliform indicator. Therefore, the proposed project should result in no impact to hydrology and water quality.

Land Use and Planning

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to land use and planning.

Mineral Resources

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to mineral resources.

Noise

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to noise.

Population and Housing

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to population and housing.

Public Services

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to public services.

Recreation

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. The Proposed Project would improve the quality of recreational opportunities by establishing water quality objectives that are protective of human health based on national epidemiological studies. Therefore, the Proposed Project is expected to have either no impact or a positive impact on recreation.

Transportation/Traffic

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns and should result in no impact to transportation or traffic.

Utilities and Service Systems

The Proposed Project would establish *E. coli* as the general bacterial indicator of contamination in freshwaters. *E. coli* is expected to be a more reliable indicator than the current indicator to indicate potential public health concerns. It is possible that the source of *E. coli* contamination might be more susceptible to source tracking than the existing indicator and lead to increased enforcement on potential sources of bacteria such as wastewater treatment facilities and stormwater runoff. This would lead, in turn, to a need to upgrade or provide adequate maintenance of sanitary and storm sewer facilities. However, any improvements to these systems are probably already needed to achieve the existing bacteria objectives. The discharge from construction or the generation of waste from any new or expanded facilities would be regulated under waste discharge requirements and any impacts will be reduced to a less than significant impact.

THE NO PROJECT/CURRENT BASIN PLAN ALTERNATIVE

This Staff Report concludes that the Proposed Project will not cause any potentially significant impacts. Therefore, there are no mitigation measures or alternative that could reduce or avoid significant impacts. This report analyzes a No Project/Current Basin Plan Alternative to provide additional context for decision-making parties. The No Project/Current Basin Plan Alternative is not environmentally superior to the Proposed Project.

The No Project/Current Basin Plan Alternative characterizes what would happen if the Proposed Project (i.e., updating the bacteria objectives for recreational waters) is not approved and implemented. Under the No Project/Current Basin Plan Alternative, there will also be no impacts but there would be no possible positive impact under Recreation.

RECOMMENDED ALTERNATIVE

Based on the analysis of the Proposed Project and the No Project/Current Basin Plan Alternative presented above, Regional Water Board staff recommend approval and implementation of the Proposed Project.

DE MINIMUS FINDING

The Regional Water Board staff, after consideration of the evidence, recommends that the Regional Water Board find that the proposed project has no potential for adverse effect, either individually or cumulatively, on wildlife.